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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/829,467	04/09/2001	Hiroshi Shinoki	JG-SIK-5063/500676.20003	8683

7590 12/13/2005  
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EXAMINER

FREDMAN, JEFFREY NORMAN

ART UNIT	PAPER NUMBER
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1637

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/829,467	SHINOKI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jeffrey Fredman	1637	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on 23 September 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3,7,11,13,15,17,19,27,32 and 33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,7,11,13,15,17,19,27,32 and 33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 11 lacks antecedent basis for R1 and R2 since claim 3 does not refer to any R groups whatsoever. Claim 11, in consequence, cannot be further examined since it makes no sense since there is no antecedent basis for the "wherein at least one of R1 and R2 is an alkyl group substituted with a carboxyl group".

### ***Claim Interpretation***

2. In interpreting claim 1, the claim uses very permissive language. Specifically, Claim 1 states that "C represents a monovalent group derived from a fluorescent dye". So claim 1 does not require that C is a dye, only that C is a monovalent group derived from a dye. The only other positive requirement for element C is that it have a "sulfonamide group". There is no requirement that C itself be a fluorescent dye or function as a fluorescent dye in any way. The following rejection utilizes this broad interpretation of element C.

So when the claims use the "derivative" language, this permits any subpart to be called a "derivative". The term is not defined in the specification and therefore the broadest reasonable interpretation is applied.

***Claim Rejections - 35 USC § 102***

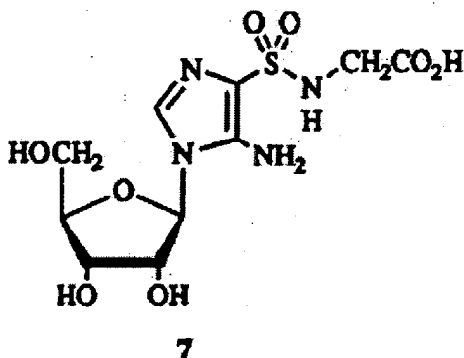
3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3, 7, 13, 15, 17, 19, 27, 32 and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Frame et al (Tetrahedron (1996) 52:9219-9236).

Frame teaches a nucleotide of claims 1 and 27, at page 9220, as shown below:



The structure of Frame the element A, a nucleotide, linked by an element B, a divalent linking group to an element C, which has a monovalent group, specifically H or CH<sub>2</sub> and which has a sulfonamide group.

With regard to claim 3, 7, 13, 32 and 33 the cyanine dyes comprise both H and or CH<sub>2</sub> groups and there is a H and CH<sub>2</sub> group in the Frame nucleotide.

With regard to claim 15, Frame teaches adenosine nucleotides and "derivatives thereof" (see page 9220).

With regard to claims 17, 19, Frame teaches the sulfonamide is linked to the derivative of the nucleotide by a CH=CH bond (since claim 1 does not require a complete nucleotide by use of the "derivative" language, the derivative can be the sugar ring which is linked to the base. This makes the base the "B" linking group, and the base in Frame comprises, for example, a CH=CH bond or amino allyl group).

This situation is similar to the situation that the Federal Circuit discussed in In re Morris, where the Federal Circuit noted "Absent an express definition in their specification, the fact that appellants can point to definitions or usages that conform to their interpretation does not make the PTO's definition unreasonable when the PTO can point to other sources that support its interpretation." In re Morris, 44 USPQ2d 1023, 1029 (Fed. Cir. 1997). In the current case, the term "derivative" renders the claim extremely broad, since even a single hydrogen or carbon are "derivatives" of nucleotides or cyanine dyes. The decision of the court in In re Bigio, 72 USPQ2d 1209 (Fed. Cir. 2004) strongly supports the breadth of interpretation. That court notes "Nevertheless, this court counsels the PTO to avoid the temptation to limit broad claim terms solely on the basis of specification passages." This caselaw supports a broad interpretation of the term "derivative".

### ***Response to Arguments***

5. Applicant's arguments filed September 23, 2005 have been fully considered but they are moot in view of the new grounds of rejection.

As a side note, the Caputo patent teaches overlapping Markush groups with the current claims, which are rejected under 102 (b), but Caputo does not predate the

Japanese priority documents which provide structures which fall within the scope of the claims and provide support for the claims.

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

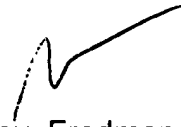
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey Fredman whose telephone number is (571)272-0742. The examiner can normally be reached on 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on (571)272-0782. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jeffrey Fredman  
Primary Examiner  
Art Unit 1637

149/05